

KACHEMAK BAY RESEARCH RESERVE

Crab Larval Transport

ISSUE:

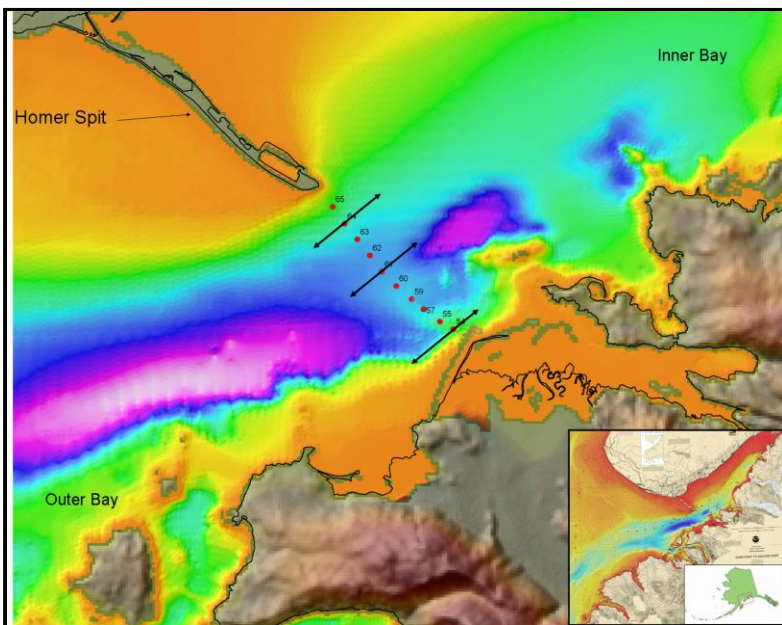
Larval transport of many marine organisms is dependent upon physical oceanographic processes, such as tides and currents. Understanding larval dispersal mechanisms and their impacts on population connectivity would facilitate appropriate management strategies of adult populations. However, biological and physical interactions affecting larval transport are not well understood, thus emphasizing a need for further research. The primary goal of this study was to address this need by examining oceanographic effects on larval crab transport and distribution between inner and outer Kachemak Bay, Alaska.

OBJECTIVES:

- ❑ Determine crab larval distribution and abundance along the inner/outer bay boundary during various tidal conditions and over the entire larval phase [March-October].
- ❑ Obtain vertical water column profiles of temperature and salinity and water speed and direction along the inner/outer bay boundary.



Scanning Electron Microscope [SEM] image of larval Dungeness crab.



Bathymetry map of Kachemak Bay's inner/outer bay boundary with tow locations depicted with black arrows and CTD stations with red

HIGHLIGHTS

- ❑ Dungeness and Tanner crab larvae may be exported out of Kachemak Bay.
- ❑ Most brachyuran crabs are likely retained within Kachemak Bay.

METHODS:

- ❑ CTD (Conductivity Temperature Depth) measurements were taken at each station throughout the study in order to obtain temperature and salinity profiles of the water column at the time of sampling.
- ❑ Horizontal surface and vertical plankton tows were taken throughout the larval recruitment period to quantify larval abundance.

STATUS: COMPLETE

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